



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,410	09/10/2003	Gus E. Krause	TA-00709	4644
7590	01/22/2007			EXAMINER
James E. Bradley BRACEWELL & PATTERSON, L.L.P. P.O. Box 61389 Houston, TX 77208-1389				ADDISU, SARA
			ART UNIT	PAPER NUMBER
				3722
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/22/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/659,410	KRAUSE ET AL.
Examiner	Art Unit Sara Addisu	3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 29 June 2006.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 10-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration..

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 10-21 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the amendment filed 6/29/06. Claim 22 has been cancelled. Currently, claims 1-21 are pending in this application.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5 and 10-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Weigel (USP 4,594,030).

WEIGEL teaches a drill having a tubular outer housing (14) having a bore extending along a longitudinal axis, a tubular inner housing (56), a pneumatic motor assembly (24) having a chuck adapted to receive a bit (11) for rotation ('030, figure 4). WEIGEL also teaches an annular feed piston (32) connected to the inner housing and located in an annular feed chamber (38) ('030, figure 4 and col. 7, lines 41-46). Examiner points out that in the axial direction, chamber (38) is located between the inner housing (56) and radially extending end face (i.e the aft end) of outer housing (14). Regarding claims 2, 3 and 11, WEIGEL teaches annular chamber (36) that is sealed by ring seal (42) located between the inner housing (56) and radially extending end face

(i.e. the aft end) of outer housing (14) (in the axial direction) and having an orifice (387) and a fluid flow restrictor (FC) ('030, figure 11 and col. 28, lines 33-45). WEIGEL also teaches a bypass passage ('030, col. 23, lines 58-61). Regarding claim 4, WEIGEL teaches the feed piston (32) being co-axial with the longitudinal axis. Regarding claims 5 and 12, WEIGEL teaches retract chamber (38) and piston rod (46) being mounted to the inner housing (56) by screwing it into the aft end of the housing (56) which is part of the motor assembly (24) ('030; col. 7; lines 51+). Regarding claim 10, WEIGEL teaches retract valve (V8), a rod (62) and contact plate (65) ('030, figure 4 and col. 8, lines 1-20).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigel (USP 4,594,030), in view of Eckman (USP 5,149,232).

WEIGEL teaches a drill having a tubular outer housing, a tubular inner housing, a pneumatic motor assembly, a chuck and a feed piston, as set forth in the above rejection.

However, WEIGEL fails to teach a sensor assembly that provides a signal.

ECKMAN teaches a pneumatic drill having an air cylinder for retracting and extending the drill bit to the workpiece. ECKMAN also teaches an adjustable by-pass or restriction that controls the rate of advancement toward the workpiece ('232, col. 2, 2<sup>nd</sup> paragraph). Furthermore, ECKMAN teaches retract and extending positions being detected by sensor (208).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate a sensory assembly to WEIGEL's invention, as taught by ECKMAN for the purpose of increasing accuracy and tool life.

3. Claims 8, 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigel (USP 4,594,030), in view of Eckman (USP 5,149,232) and further in view of Frederick (USP 6,788,997).

The modified device of WEIGEL teaches a drill having a sensor assembly that provides a signal, as set forth in the above rejection. Furthermore, ECKMAN teaches a preferred control system comprising a drilling mode sensor, a retracted position sensor, a timer, and end of hole sensor, and a drive train control. The control system could be pneumatic components, analog electrical circuit components or digital control components ('232, Col. 7, lines 47-56).

However, the modified device of WEIGEL fails to teach a resilient dome member and electrical contacts being engaged by the dome member.

FREDERICK teaches electrical sensor means are supported by and electrically connected to circuit board, the sensor means generating signals indicative of the placement of an object onto and the removal of an object from the object a support member (136). FREDERICK also teaches the sensor means comprising one or more discrete force actuatable switches (160) such as snap-type internally resilient dome switches.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize resilient dome switch, as taught by FREDERICK because ECKMAN teaches the control system could be analog electrical circuit ('232, Col. 7, lines 47-56).

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on (571) 272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sara Addisu  
(571) 272-6082

SA  
1/4/07

*Monica S. Carter*  
MONICA CARTER  
SUPERVISORY PATENT EXAMINER